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Award Number: DAMD17-03-C-0071

TITLE: Feasibility Study and Demonstration Project for Joint Military/Civilian Trauma Institute with a Burn Center

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REPORT DATE: October 2007

TYPE OF REPORT: Final

PREPARED FOR: U.S. Army Medical Research and Materiel Command  
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;  
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<b>REPORT DOCUMENTATION PAGE</b>				<i>Form Approved</i> <b>OMB No. 0704-0188</b>	
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<b>1. REPORT DATE (DD-MM-YYYY)</b> 01-10-2007		<b>2. REPORT TYPE</b> Final		<b>3. DATES COVERED (From - To)</b> 26 MAY 2003 - 25 SEP 2007	
<b>4. TITLE AND SUBTITLE</b>  Feasibility Study and Demonstration Project for Joint Military/Civilian Trauma Institute with a Burn Center				<b>5a. CONTRACT NUMBER</b>	
				<b>5b. GRANT NUMBER</b> DAMD17-03-C-0071	
				<b>5c. PROGRAM ELEMENT NUMBER</b>	
<b>6. AUTHOR(S)</b> Ronald M. Stewart, M.D.  E-Mail: STEWARTR@uthscsa.edu				<b>5d. PROJECT NUMBER</b>	
				<b>5e. TASK NUMBER</b>	
				<b>5f. WORK UNIT NUMBER</b>	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b>  University of Texas Health Sciences Center San Antonio, Texas 78229-3900				<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012				<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>	
				<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>	
<b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for Public Release; Distribution Unlimited					
<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b> No abstract provided.					
<b>15. SUBJECT TERMS</b> No subject terms provided.					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>	<b>18. NUMBER OF PAGES</b>	<b>19a. NAME OF RESPONSIBLE PERSON</b>
<b>a. REPORT</b> U	<b>b. ABSTRACT</b> U	<b>c. THIS PAGE</b> U			USAMRMC
			UU	8	<b>19b. TELEPHONE NUMBER (include area code)</b>

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## **INTRODUCTION**

The University of Texas Health Science Center at San Antonio (UTHSC) proposed to utilize \$1.35M in congressional funding to work collaboratively with Brooke Army Medical Center (BAMC), the US Army Institute of Surgical Research, Wilford Hall Medical Center (WHMC) and University Hospital (UH). The original grant was modified and awarded the additional funds. The awarded grant enabled these partners to create the Trauma Institute of San Antonio, Texas (TRISAT), now named the National Trauma Institute. This name change reflects the change in mission, vision and scope from a local effort to a more national effort. The modified Statement of Work described goals in the areas of patient care, research, and education. The collaborative nature of NTI permits all partners to take advantage of their individual strengths in the areas of patient care, research and teaching and creates a joint operation that is thought to have stronger sustainability. This collaboration improves the ability of UTHSC, BAMC and WHMC to provide stronger educational and research programs, thus enhancing mission readiness.

**Body:**

The Modified Statement of Work includes these tasks which are addressed in detail in this section:

- A. Research (Resuscitation, Monitoring, and Metabolic Control)
  - 1. Establish procedures to identify upon admission to the emergency department those patients who may require a blood transfusion to employ the assessment of coagulation status of patient with traumatic injuries.
  - 2. Implement programs and procedures to improve patient monitoring from the point of injury through the Intensive Care Unit
  - 3. Implement programs and procedures to facilitate metabolic monitoring of the critically injured patient and includes development and implementation of standard of care guidelines, point of care testing and decision assist paradigms.
- B. Education
  - Expand the educational aspect of the program by providing seed funding for resident research projects that foster collaboration between the NTI partners.
- C. Support
  - Provide epidemiological and statistical support to identify differences between civilian and military patient populations and provide assessments as to the standard of care in relation to patient outcomes.
- D. Other opportunities for collaboration

**Clinical Research**

Exception of Informed Consent Studies: The Northfield PolyHeme trial was closed in the second quarter of this report year due to completed study enrollment. NTI Research Group received approval of a Vasopressin study originally sponsored by the Office of Naval Research. Those funds were transferred to the US Army for administration. The group implemented the federal guidelines for waiver from informed consent which was completed and approved by IRB's. Pending final HSRRB approval and signature by the Secretary of the Army, the military facilities will begin this study. As of the date of this annual report, the final approval from the military is still pending.

Resuscitation studies (hemorrhage control, coagulopathy, and damage control resuscitation): The Multi-Center Retrospective Review of Transfusion Practices (Damage Control Resuscitation) began in the third quarter of this report year. This initial retrospective chart reviews trauma patients receiving massive blood transfusions vs. patient who did not receive massive blood transfusions. Twenty-five sites agreed to participate with a final of seventeen sites submitting data. Analysis of the resulting data will determine further clinical studies design and implementation. An investigator meeting will be held in June 2007 to discuss results as of that time and future plans for studies under this contract.

Metabolic Monitoring studies: The NTI Research Group plans to design and implement studies associated with glucose monitoring in the Intensive Care Unit, glucose control effects and outcomes on the ICU patient, Insulin therapy in the ICU, and initiate a national symposium with other researchers in this area. The first symposium meeting is planned for July 2007.

### **Education**

Resident/Fellow:

The NTI Critical Care Consortium had three graduates of Academic Year 05-06. Currently there are four Surgical Critical Care fellows for Academic Year 06-07. A core group of lectures was identified as covering critical elements and issues within the ICU and are given at the beginning of the academic year. This core group is being recorded and made available on the NTI website. The lecture series is also now attended by William Beaumont Army Medical Center in El Paso. Residents and fellows from the NTI partners remain involved in all aspects of research from design, implementation, analysis, and publication.

Healthcare Team:

The 12<sup>th</sup> Annual Trauma Symposium, sponsored by NTI and the US Navy, was held September 19-21, 2006 with approximately 75 speakers and 800 attendees. These attendees are from all physician specialties caring for trauma patients, nursing, pre-hospital care providers, and other disciplines of the health care team. The lectures are available on the Army Lessons Learned, and the UT Surgery Department websites. The 13<sup>th</sup> Annual Trauma Symposium will be held August 20-22, 2007. Abstracts from the 2006 Symposium speakers and moderators were published as a Supplement to the Journal of Trauma.

### **Other Opportunities for Collaboration**

NTI and STRAC continue to jointly manage the Regional Registry which includes hospital trauma registry data and pre-hospital trauma data. San Antonio EMS, representing more than half of all ground transports has moved to the Regional Pre-Hospital data product.

NTI has been incorporated and has been recognized by the Internal Revenue Service as exempt from Federal income tax and are exempt under section 501(c)(3) and further classified as a public charity. This status allows NTI to apply for and administer grant funds directly.

Texas Emerging Technology Fund: The State of Texas has a \$200 million fund for a variety of purposes, generally intended to bring technology and researchers to Texas. NTI will apply within the Grant Matching Program in the first quarter following this report year. The focus of this grant application will be technology associated with vital sign monitoring.

Private Fundraising: NTI will develop and implement plans for private fundraising throughout the US, with a potential target of up to \$50 million.

### **Key Research Accomplishments**

- Completion of Northfield Study
- Granting of Vasopressin Study from ONR
- Approval of federal exception from informed consent for Vasopressin Study
- Agreement of 25 sites across the nation to participate in a retrospective study of transfusion practices

### **Reportable Outcomes**

Pruitt, B. A. (Ed). (2007). 12<sup>th</sup> Annual San Antonio Trauma Symposium [Supplement]. *J Trauma*, 62(6).

## **Conclusion**

NTI is a unique combination of military and civilian trauma and burn centers and serves as a model of coordinated care, research and education. NTI's mission is to reduce injury, death and disability by: elevating trauma on the national research agenda, increasing scientific knowledge related to trauma, burns and injury prevention; and changing clinical practice through the state, nation and world. The NTI vision is to stop unnecessary suffering from trauma through prevention, education, and research, and ultimately decrease rates of death and disability in trauma patients. NTI will be recognized as the premier grant making institution for translational trauma research.

The accomplishments of this year including NTI establishing itself as a 501(c)(3), embarking on a private fundraising campaign, applying for State of Texas grants, and hosting a 25 site study are a testament to the commitment, vision, and success of this partnership. The education component of NTI has grown in centers participating in the lecture series and attendance at the Trauma Symposium again affirming NTI's role in advancing trauma education for the entire healthcare team.

We will implement initiatives that include a surgical research center of excellence, burn center research and program development, video teleconference technology to connect all centers to each other for purposes of disaster/bioterrorism response coordination and shared professional education, a regional ICU registry that will provide the data needed to further research, and the support infrastructure needed to develop these initiatives.

The global war on terrorism presents a critical and increasing need for combat casualty care; since our military partners (BAMC and WHMC) are the only two Level 1 Trauma Centers and the BAMC Burn Center is the only ABA-verified burn program in the DoD, trauma training at these sites is critical. US military trauma program directors in Iraq praise the accomplishment of deployed San Antonio trained staff. Physicians, nurses and enlisted members from the Army and Air Force utilize their skills obtained from daily trauma training in their respective Level 1 Trauma Centers. The intangible aspects of experience and confidence, derived from direct clinical practice in the military's only level I trauma centers, continues to save lives on the battlefield. Continued NTI research and clinical studies enable us to develop new protocols for trauma management that will save soldiers in future conflicts and victims of trauma at home.